

and cross-linked. Cross-linked fibrils are much more resistant to collagenase.<sup>4</sup> Just as local production of rheumatoid factor by B lymphocytes in synovial tissue amplifies the inflammatory response, continued local production of lymphokines or exposure to serotonin or related compounds may magnify the effect on collagen synthesis in diseases such as retroperitoneal fibrosis. The type of collagen synthesized may affect the size of fibrils formed. This in turn would affect the rate of cross-linking and subsequent collagenolysis by collagenase and phagocytosis. For example, increased concentrations of calcium shift collagen synthesis in cloned chondrocytes from type II to type I.<sup>5</sup> Phagocytic leukocytes from rheumatoid synovial fluid contain more type II collagen than type I, which suggests that selective degradation is occurring.<sup>6</sup> Understanding mechanisms such as these, which affect expression of disease, may allow future identification of patients at increased risk for the development of fibrotic sequelae from commonly used drugs such as alcohol and propranolol.

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## The Changing Cigarette

THE TOBACCO INDUSTRY spent more than \$420,000,000 in 1978 to promote lower tar and nicotine cigarettes. This represented 48 percent of all dollars spent for cigarette advertising. Over the past decade lower tar and nicotine cigarettes have claimed a progressively larger share of the United States market, increasing from 4 percent in 1970 to 50 percent in 1979. Part of the switch to lower tar cigarettes appears to be due to acceptance of the implicit advertising message that substantial reductions in machine-measured tar and nicotine levels may be equated with substantial reductions in risk for smokers. Is the changing cigarette really

safer than its predecessors? The recently released 1981 Report of the Surgeon General summarizes available data and makes recommendations concerning this question.<sup>1</sup>

The report emphasizes that there is "no safe cigarette and no safe level of consumption." For most tobacco-related diseases the evidence concerning lower tar and nicotine cigarettes is simply too limited to allow judgments about risk reduction. Only in the case of lung cancer were there firm data documenting a modest reduction in disease mortality for smokers of lower tar and nicotine cigarettes compared with smokers of higher tar and nicotine cigarettes; however, these modestly reduced rates were much higher than those of nonsmokers.

The report assists physicians in advising their patients about lower tar and nicotine cigarettes. It cautions about assumptions concerning the safety of lower tar and nicotine cigarettes:

- Compensatory smoking behavior—for example, smoking a greater number of cigarettes or inhaling more frequently—may result in greater smoke exposure and risk for the smoker.

- The increasing use of tobacco additives to enhance consumer acceptability of lower tar and nicotine cigarettes represents an essentially unmeasured risk for the smoker. Some additives are either known carcinogens or give rise to carcinogenic substances during combustion. Because these additives are not regulated by the federal government, public disclosure of substances currently in use is not required.

- Reductions in tar and nicotine yields may not correspond to comparable reductions in other smoke constituents—that is, gas phase constituents may be present in increased concentrations.

- Published machine-smoked tar and nicotine yields do not correspond to individual smoke exposure, and in some cases the exposure may be greatly underestimated.

A burning cigarette is very much like a miniature chemical factory that produces a myriad of toxic substances. Compared with stopping smoking or never starting to smoke, modifying the smoke effluent offers only slight risk reduction for a smoker.

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